

Serial No. 10/799,652
Amendment dated January 17, 2008

Atty. Docket No. 249/454
Reply to Office action of September 17, 2007

REMARKS

Prior to entry of this amendment, claims 1-21 are pending in the subject application. Claim 1 is the sole independent claim. In this amendment, claims 1-7, 12-14, 16 and 18 have been amended, and claims 8-9, 17 and 19-20 have been cancelled. No new matter is added by the amendments to the claims. For example, claims 1-6 have been amended to incorporate limitations already present in claim 7.¹ Claim 7 has been amended to clarify intended subject matter and for consistency with the amendments to claim 1, by deleting the limitation "cooling element". Claims 12-14, 16 and 18 have been amended, as supported at least by paragraphs [0028] – [0029] of the specification as filed. Entry of the foregoing amendments and reconsideration in light of the following remarks is respectfully requested.

Applicants note with appreciation the Examiner's acknowledgement of applicants' claim for foreign priority and receipt of a certified copy of the priority document.

Applicants also note with appreciation the Examiner's acceptance of the drawings filed on March 16, 2004.

Applicants further note with appreciation the Examiner's consideration of applicants' Information Disclosure Statements filed June 21, 2004 and March 7, 2006.

A. Introduction

In the outstanding Office action:

claims 1-6, 10, 11 and 21 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication No. 2002/0139523 to Hisai ("the Hisai reference"); and

claims 7-9 and 12-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Hisai reference and further in view of U.S. Patent No. 6,256,201 to Ikeda et al. ("the Ikeda et al. reference").

¹ Claim 1 has been further amended as supported at least by paragraph [0031] of the specification as filed.

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B. Asserted Anticipation Rejection of Claims 1-6, 10, 11 and 21

In the outstanding Office action, claims 1-6, 10, 11 and 21 were rejected under 35 U.S.C. § 102(b) as being anticipated by the Hisai reference. This rejection is respectfully traversed for at least the reasons set forth below.

It is respectfully submitted that the Hisai reference does not teach or suggest each and every element of claims 1-6, 10, 11 and 21, and therefore, a *prima facie* case of anticipation has not been established. For example, claim 1, as amended, recites, *inter alia*:

a heatpipe for cooling the plate using vaporization of a coolant therein, the heatpipe arranged in proximity to the plate with the heater disposed therebetween;
a coolant storage tank for supplying the coolant into the heatpipe when the plate is cooled and for storing the coolant supplied to the heatpipe when the plate is heated; and
a thermostatic element for maintaining an approximately constant temperature of the coolant supplied into the heatpipe when the plate is cooled.

It is respectfully submitted that the Hisai reference does not teach or suggest at least “a coolant storage tank for supplying the coolant into the heatpipe”, as recited in claim 1.

Although the Hisai reference discloses a thermal processing plate employing a heatpipe, the heatpipe disclosed in the Hisai reference does not employ “a coolant storage tank for supplying the coolant into the heatpipe”, as recited in claim 1. For example, the thermal processing plate of the Hisai reference employs a “cooling plate” formed on a bottom surface of the thermal processing plate, but the coolant supplied to the cooling plate of the Hisai reference is not capable of being supplied to the heatpipe. For example, quoting from paragraphs [0033] and [0037] of the Hisai reference,

[0033] ... the thermal processor is provided with a cooling plate 21 on the lower surface of the thermal processing plate 11 between the pair of working fluid chambers 13. The structure of the cooling plate 21 is described later in detail.

[0037] The cooling plate 21 is formed by bonding two metal plates having high thermal conductivity to each other, and a cooling fluid passage 24 is formed on the bonded surface. An end of the cooling fluid passage 24 is connected to an inlet port 22, while the other end is connected to an outlet port 23. The cooling fluid passage 24

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reaching the outlet port 23 from the inlet port 22 is formed in a meandering manner for increasing the length thereof.

As clearly shown by the above excerpt from the Hisai reference, the Hisai reference does not teach or suggest at least "a coolant storage tank for supplying the coolant into the heatpipe", as recited in claim 1.

As an additional matter, it is respectfully submitted that the Hisai reference does not teach or suggest at least "a heatpipe for cooling the plate using vaporization of a coolant therein", as recited in claim 1. With respect to the assertion on page 2 of the Office action of September 17, 2007, that paragraph [0041] of the Hisai reference anticipates vaporization of the cooling fluid, applicants respectfully disagree. More specifically, paragraph [0041] of the Hisai reference indicates that vaporization of the cooling water in fluid passage 24 is disadvantageous. *See*, lines 6-8 of paragraph [0041]. Therefore, the Hisai reference specifically teaches use of compressed air in the fluid passage 24 in order to avoid presence of water and vaporization thereof. *See*, lines 8-12 of paragraph [0041]. Accordingly, it is respectfully reiterated that the Hisai reference fails to teach or suggest at least "a heatpipe for cooling the plate using vaporization of a coolant therein", as recited in claim 1.

Moreover, a baking system employing a heatpipe as claimed in claim 1 is not a mere design choice, but may allow greater heating/cooling control, more uniform heating/cooling and/or faster heating/cooling than conventional baking systems. Thus, not only does the Hisai reference fail to teach or suggest all of the claim elements recited in claim 1, the device taught by the Hisai reference fails to provide the advantages afforded by the claim elements recited in claim 1.

In view of the above, applicants respectfully submit that the Hisai reference fails to teach or suggest each and every element of claim 1, and therefore, claim 1 is not anticipated by the Hisai reference. Rejected claims 2-6, 10, 11 and 21 depend from and include all limitations of claim 1 and, therefore, are not anticipated by the Hisai reference for at least the

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same reasons. Accordingly, applicants respectfully request that the rejection of claims 1-6, 10, 11 and 21 under 35 U.S.C. § 102(b) be favorably reconsidered and withdrawn.

C. Asserted Obviousness Rejection of Claims 7-9 and 12-20

In the outstanding Office action, claims 7-9 and 12-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Hisai reference in view of the Ikeda et al. reference. It is noted that claims 8-9, 17 and 19-20 have been cancelled, rendering this rejection of these claims moot. This rejection of pending claims 7, 12-16 and 18 is respectfully traversed for at least the reasons set forth below.

In order to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), all the claim limitations of the rejected claims must be described or suggested by the cited document(s).² In addition, the rejection must establish that it would have been obvious for one of ordinary skill in the art to have modified or combined the teachings of the cited document(s) in the manner applied to reject the claims.³ One way to establish this would be to show that there is some suggestion or motivation, either in the cited document(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the cited document(s) or to combine the teachings from those document(s).

It is respectfully submitted that the cited documents do not meet these criteria, because no combination of the Hisai reference with the Ikeda et al. reference would describe or suggest all of the claim limitations of rejected claims 7, 12-16 and 18 which depend from and include all limitations of claim 1. Therefore, a *prima facie* case of obviousness has not been established.⁴

² See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). See also MPEP § 2143.03.

³ See *KSR International, Co. v. Teleflex, Inc.* No. 04-1350 (U.S. Apr. 30, 2007).

⁴ The applicants do not concede that a successful combination could be made, or that the rejection demonstrates some suggestion or motivation either in the cited documents themselves or in the knowledge generally available to one of ordinary skill in the art to combine the cited documents.

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For example, claim 1, as amended, recites, *inter alia*:

a heatpipe for cooling the plate using vaporization of a coolant therein,
the heatpipe arranged in proximity to the plate with the heater disposed
therebetween;
a coolant storage tank for supplying the coolant into the heatpipe when
the plate is cooled and for storing the coolant when the plate is heated; and
a thermostatic element for maintaining an approximately constant
temperature of the coolant supplied into the heatpipe when the plate is cooled.

It is respectfully submitted that any combination of the Hisai reference with the Ikeda et al.
reference does not describe or suggest at least "a coolant storage tank for supplying the
coolant into the heatpipe", as recited in claim 1.

As noted above with reference to the 35 U.S.C. § 102(b) rejection, section B, the
Hisai reference fails to describe or suggest each and every element of claim 1, from which
claims 7, 12-16 and 18 depend. For example, the Hisai reference does not describe or
suggest at least "a coolant storage tank for supplying the coolant into the heatpipe", as recited
in claim 1. Furthermore, it is respectfully submitted that the Ikeda et al. reference fails to
cure the noted deficiencies of the Hisai reference. The Ikeda et al. reference appears to
describe a plate-type heat pipe, but the plate-type heat pipe described in the Ikeda et al
reference does not include "a coolant storage tank for supplying the coolant into the
heatpipe", as recited in claim 1.

Claims 7, 12-16 and 18 depend from and include all limitations of claim 1 and are
therefore not rendered obvious for at least the same reasons as noted above. Accordingly, it
is respectfully submitted that the rejection fails to establish a *prima facie* case of obviousness,
and claims 7, 12-16 and 18 are in condition for allowance. Therefore, applicants respectfully
request that the rejection of claims 7, 12-16 and 18 under 35 U.S.C. § 103(a) be favorably
reconsidered and withdrawn.

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The above remarks point out the fatal deficiencies of the outstanding rejections, and are sufficient to overcome them. However, while these remarks may refer to particular claim elements, they are not intended to, nor need they comprehensively address each and every reason for the patentability of the claimed subject matter over the applied art. Accordingly, applicants respectfully submit that the claims are allowable for reasons including, but not limited to, those set forth above, and that the patentability of the claims does not depend solely on the particular claim elements discussed above.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

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PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.